



Emission Inventory Improvement Program

January 1999

U P D A T E

We're Back . . .

The last issue of *EIIP Update* (September 1997) indicated that we would not publish the newsletter for a couple of months due to 1998 budget uncertainties. These uncertainties lasted much longer than anticipated. The EIIP did not receive its 1998 funds until May of this year. This left only four months to reorient the program, allocate resources, and continue the process of developing standardized methods for estimating emissions. As a result, no *EIIP Update* was published in FY98. Things are looking much more settled and predictable for FY99. So, we're back.

The major uncertainty of last year was whether the EIIP would be funded. The FY99 funding process allowed that question to be answered by the beginning of the new fiscal year. Each state and local agency had to indicate whether they wanted the EIIP to continue. The vote was a resounding affirmation of the program.

Despite the uncertainties of FY98, much was accomplished. The committee co-chairs and members deserve much credit for not allowing the bureaucracy to disrupt their work. A brief summary of last year's activities for each committee can be found in this issue. You will also find the latest list of standardized methods.

You will notice that the EIIP now has three new committees. At a December 1997 meeting, the Steering Committee and committee co-chairs agreed to form a PM-2.5 committee and a Projections Committee. The EIIP has also "adopted" a group of state and EPA individuals compiling emission inventory guidance for greenhouse gases. These new committees are now operating, and information describing their mission can be found on the EIIP World Wide Web site. Future issues of the *Update* will feature each of these new committees.

As a final reminder, all EIIP activities, including committee meeting minutes, technical papers, and standardized procedures can be found at <http://www.epa.gov/oar/oaqps/eiip/>

SAEWG Deliberates Future of EIIP

The Standing Air Emissions Work Group (SAEWG), a working group of STAPPA/ALAPCO, discussed the future of the EIIP at its October meeting. SAEWG oversees the EIIP on behalf of STAPPA/ALAPCO. Funding has been obtained for the EIIP for FY99 and plans are to seek support for FY2000. At the end of FY2000 the EIIP will complete its mission.

Because of its success in bringing order to the inventory process and cooperation between all levels of government, SAEWG is considering asking STAPPA/ALAPCO to support a follow-on program to the EIIP. While EIIP accomplishments are extensive, many areas of the inventory process remain that need attention. Since the process of addressing problems chosen by the EIIP has proven successful, SAEWG considers a follow-on to the EIIP a logical extension of the program.

To determine what STAPPA/ALAPCO members think about supporting another emission inventory program, SAEWG along with the EIIP Steering Committee will develop a questionnaire to seek advice from members. The questionnaire will ask whether the EIIP has fulfilled members' expectations, what other inventory-related activities are needed to insure accurate data, and, if a follow-on program is to be supported, what changes should be made to the process the EIIP used to develop and distribute its products. If the response is positive, SAEWG will prepare a proposal for STAPPA/ALAPCO consideration. The questionnaire will be distributed at or before the May 1999 STAPPA/ALAPCO meeting.

Committee Activity Summaries

Point Sources Committee

The Point Sources Committee has seen quite a few changes in the past year. EPA co-chair Dennis Beauregard is moving on to other duties, and Roy Huntley has begun assuming new responsibilities as the EPA co-chair. Bill Gill, with the Texas Natural Resource and Conservation Commission (TNRCC) who was serving as the state co-chair, has decided to spend more time with area source issues, and Bob Betterton, with the South Carolina Department of Health and Environmental Control, has agreed to serve as the new state co-chair, pending Steering Committee approval. Despite these changes, this committee remains active. Their activities are summarized below.

Activities Initiated

- ◆ Started a task to identify and review information from state and local agencies on reports submitted by stationary sources to document excess emissions. The results of this effort are being used to develop guidance on the use of such information for adjusting emission inventories to account for rule effectiveness.

- ◆ Initiated efforts to update the list of potential categories for guidance document development during FY99 and beyond.

Activities Ongoing

- ◆ Chapter 6, Semiconductor Manufacturing: Comments received from external review have been addressed. A revised draft was prepared for a limited second external review. The document will be finalized in January 1999 and available on the EIIP World Wide Web site.
- ◆ Chapter 10, Oil and Gas Field Production and Processing Operations: Comments received during external review are being addressed. A revised draft is scheduled for a limited second external review in December 1998.
- ◆ Chapter 11, Plastics Products Manufacturing: Comments received during external review have been addressed. The document was finalized in December 1998 and will be available in January on the EIIP Web site.

Activities Completed

- ◆ Chapter 9, Secondary Metals Processing, was completed and posted on the EIIP Web site.
- ◆ Chapter 13, Technical Assessment Paper for Stone Mining and Quarrying, was completed and posted on the EIIP Web site.
- ◆ Developed a draft rule effectiveness paper for Steering Committee review that was posted on the EIIP Web site.
- ◆ Wood products manufacturing document outline was developed and put on hold pending completion of several related sections in AP-42.
- ◆ Graphic arts and printing document outline has been developed and is being considered for guidance development.

Area Sources Committee

The Area Sources Committee continues to prepare chapters on recommended area source methodologies, circulate them for review, and publish them when complete. Several chapters have been finalized in the past year and several others are being reviewed. The review process includes EIIP members and external reviewers who have expressed interest in the EIIP. This process may also include review from appropriate industry contacts and other affected agencies. Currently, sections on agricultural and prescribed burning in the open burning chapter have been pulled from the chapter and put on hold pending further review by a U.S. Department of Agriculture/EPA task force on agricultural emissions sources. Similarly, the section on wildfires has been taken out of the accidental fires chapter and is also pending. The remainder of the open

burning chapter (covering municipal solid waste, land clearing, and yard waste burning) and accidental fires (renamed structure fires) chapter will continue separately.

During the past year, the committee initiated preparation of “methods abstracts” for certain area source categories. The abstracts are concise documents on emissions estimation guidance procedures for categories where a full, detailed EIIP guidance chapter could not be developed for reasons of time, resources, or need. The abstracts describe the category, list the pollutants emitted, and discuss available emission estimation methods. Other information, such as spatial and temporal allocations and a list of references, may also be included. Six draft abstracts have been prepared, and the categories addressed are asphalt roofing, bakeries, charbroiling, leaking underground storage tanks, residential/commercial fuel combustion, and vehicle fires. More are planned for the future and the categories to be addressed are catastrophic releases and barge, tank, and truck cleaning.

In efforts to promote outreach to the emission inventory community, the committee has prepared a list of frequently asked questions (FAQs) and answers concerning various inventory issues. The FAQs will be made available on the EIIP Web site when complete. Information will be included on issues such as how to use the methodologies, where to go for more help, how to set priorities, and data management.

The committee also is continuing to discuss the possibility of preparing chapters on particulate matter (PM) categories such as fugitive dust emissions from unpaved roads. This committee will work with the newly formed PM-2.5 Committee in the future to initiate chapters as appropriate.

Quality Assurance Committee

The principal activity for the QA Committee has been the development of a draft section on verification and validation techniques for the QA Volume. Initial work involved the development of a “white paper” to identify potential verification and validation techniques and to determine if there would be sufficient potential to proceed. Inventory verification and validation go beyond traditional QA and quality control (QC). The purpose of verification and validation is to apply an independent means or method to an inventory to evaluate inventory accuracy. Examples of the techniques considered are comparisons of inventory data with ambient monitoring data, measurement-based methods such as remote sensing, and predictive emission models.

The committee concluded that good existing information was available and recommended to the Steering Committee that work continue. The Steering Committee authorized funds and the work has gone forward. Currently, the committee is reviewing the draft document, which will be posted on the EIIP Web site for review and comment following external review.

Data Management Committee

During the past year, the EIIP Data Management Committee (DMC) continued work on developing protocols to facilitate the exchange of emissions information between data generators and users. An important milestone was completing and documenting the results of the EIIP

electronic data interchange (EDI) prototype demonstration between the EPA Emission Factors and Inventory Group (EFIG), California Air Resources Board (CARB), and Pennsylvania.

The DMC provided interpretation and assistance to EFIG in their use of the EIIP Phase I Data Model to develop an Oracle® database that will store the National Emission Trends (NET) inventory, including state and local data. In addition, the committee provided interpretation and assistance to other EPA offices to consider use of the EIIP Phase I Data Model and possibly extending its use to consolidate and standardize air reporting requirements from industry to EPA and state agencies.

The DMC also sponsored and presented several conference papers to communicate the significance of the EIIP Phase I Data Model as well as the development and demonstration of using EDI X12 standards to transfer emission inventory data between state agencies and EPA.

SCC Subcommittee

The Source Classification Code (SCC) Subcommittee has been working to develop a system to replace the existing SCC system. Over the years, the SCCs have lost much of their utility, are hard to maintain, and may lead to the same process being assigned different SCCs. As emission inventories become more regional, the EIIP decided it was important that similar processes in different states be classified the same. After much work, the subcommittee decided it was better to replace the existing SCC system with a new classification scheme.

The proposed new codes are being referred to as Process Classification Codes (PCCs). They will consist of four separate, nonhierarchical fields. Any information contained in any of the four existing hierarchical description levels of the current SCCs and needed to uniquely define an emission point or operation will be parsed into one of the four PCC fields. The four new fields are tentatively referred to as SITE_TYPE, EQUIPMENT_TYPE, MATERIAL, and EMISSION_MODE although the allowable contents of each field will likely be defined to be wider than those terms might suggest. Specification of the first two or three of these fields will be sufficient in many instances to identify an emitting process or inventory category. Some types of information associated with the current SCCs that will not be parsed into any of the four PCC elements are throughput units, equipment size range, and Standard Industrial Classification (SIC) identification. This additional information should be recorded in its own data field(s), unrelated to the PCC fields. Initial draft PCCs will be available for comment in early 1999.

Projections Committee

The EIIP Projections Committee was developed in mid-FY98 to address the needs of local, state, and regional agencies by providing guidance on options for forecasting future emissions. The committee has and is continuing to examine alternatives for projecting emissions changes into the future and develop a list of recommended approaches for applying specific indicators.

The committee is identifying and classifying major source category methods and models to complete this list of approaches. Through interaction with local, state, regional, and industry members, the Projections Committee in FY99 will finalize the guidance necessary for individuals to choose the most appropriate indicator of future emissions changes for an area.

PM-2.5 Committee

The EIIP PM-2.5 Committee was chartered in spring 1998 to develop a state-of-the-science paper on emission inventories for PM-2.5. The external review draft of the document is on the EIIP World Wide Web site. Comments are being addressed and a final document should be available in early 1999. The committee is discussing the feasibility and need for expanding the paper into a PM-2.5 inventory “getting started” document that would complement the draft inventory development guidance.

The committee plans to work closely this year with the EIIP Area Sources Committee to identify needs for inventory preparation documents (e.g., fugitive dust, ammonia source categories). In addition, three other ideas are also being explored: (1) adding a detailed glossary of key terms and phrases associated with the PM-2.5 inventory program to the state-of-the-science document; (2) determining ways to define and address some specific small point source categories that might be treated as area sources in PM-2.5 inventories; and (3) identifying issues and needs related to chemical mass balance (CMB) modeling and source profiles.

Greenhouse Gas Committee

Background

The Greenhouse Gas (GHG) Committee of the EIIP is dedicated to improving the quality, reliability, and verifiability of inventories of sources and sinks of GHGs. The committee was created to champion the development of high quality GHG inventories primarily at the state and local level, and the committee’s efforts could be applied to facility inventories.

Objective

The committee’s first objective is to develop EIIP Volume VIII: Greenhouse Gas Emissions, which will help states harmonize emission inventory methods with those used nationally and internationally. The committee also serves as a forum for state experts to discuss GHG issues.

Progress

The committee reviewed current inventory methodologies recommended by EPA and the Intergovernmental Panel on Climate Change (IPCC). Where appropriate, they suggested alternate methodologies from their experience. Then they ranked the inventory methodologies using the Data Attribute Rating System and placed the report into EIIP format. The committee has reviewed the 15 chapters of the draft version of Volume VIII, which will be available for external review on the EIIP Web site in mid-December 1998. A final version will incorporate these comments and be posted on the EIIP Web site in January 1999.

Next Steps

The committee may review other EIIP volumes to ensure that GHGs are addressed in relevant emission sectors. This would provide methodologies for facilities to estimate their GHG emissions.

Document Status by Committee



Area Sources Committee

- INTRODUCTION TO AREA SOURCES
- RESIDENTIAL WOOD COMBUSTION
- ARCHITECTURAL SURFACE COATING
- DRY CLEANING
- CONSUMER AND COMMERCIAL SOLVENT USE
- SOLVENT CLEANING
- GRAPHIC ARTS
- INDUSTRIAL SURFACE COATING
- PESTICIDE APPLICATION
- GASOLINE MARKETING
- MARINE VESSEL LOADING, BALLASTING AND TRANSIT
- TRAFFIC PAINTS
- LANDFILLS
- ASPHALT PAVING
- AUTO BODY REFINISHING
- OPEN BURNING
- STRUCTURE FIRES
- AGRICULTURAL BURNING
- PRESCRIBED BURNING
- WILDFIRES

Methods Abstracts

- ASPHALT ROOFING
- BAKERIES
- BARGE, TANK AND TRUCK CLEANING
- CATASTROPHIC/ACCIDENTAL RELEASES
- CHARBROILING
- LEAKING UNDERGROUND STORAGE TANKS
- RESIDENTIAL/COMMERCIAL FUEL COMBUSTION
- VEHICLE FIRES

Steering Committee

- ENTIRE VOLUME

Biogenic Sources Committee

- ENTIRE VOLUME

PM-2.5 Committee

- STATE-OF-THE-SCIENCE PAPER ON STATUS OF EMISSIONS INVENTORY METHODS FOR PM-2.5 AND APPENDIX A PIE CHARTS OF SPECIATED AMBIENT PM-2.5

Mobile Sources Committee

- METHODS FOR GATHERING AND LOCATING SPECIFIC EMISSION INVENTORY DATA
- USE OF LOCALITY-SPECIFIC TRANSPORTATION DATA FOR THE DEVELOPMENT OF MOBILE SOURCE EMISSION INVENTORIES
- GUIDANCE FOR ESTIMATING LAWN AND GARDEN EQUIPMENT ACTIVITY LEVELS

Greenhouse Gases Committee

- CO₂ FROM FOSSIL FUELS
- GHGs FROM PRODUCTION/CONSUMPTION
- GHGs FROM MUNICIPAL WASTE MANAGEMENT
- GHGs FROM AGRICULTURAL SOIL MANAGEMENT
- GHGs FROM BURNING OF CROP WASTES
- GHGs FROM FOREST MANAGEMENT AND LAND USE CHANGE
- NON-CO₂ GHGs FROM MOBILE COMBUSTION
- NON-CO₂ GHGs FROM STATIONARY COMBUSTION
- METHANE FROM NATURAL GAS AND OIL SYSTEMS
- METHANE FROM COAL MINING
- METHANE FROM DOMESTICATED ANIMALS
- METHANE FROM MANURE MANAGEMENT
- METHANE FROM FLOODED RICE FIELDS
- METHANE FROM MUNICIPAL WASTEWATER

Point Sources Committee

- INTRODUCTION
- BOILERS
- HOT-MIX ASPHALT
- EQUIPMENT LEAK FUGITIVES
- WASTEWATER COLLECTION AND TREATMENT
- SURFACE COATING OPERATIONS
- PAINT AND INK MANUFACTURING
- SECONDARY METALS PRODUCTION
- STONE MINING AND QUARRYING
- SEMICONDUCTOR MANUFACTURING
- OIL AND GAS FIELD PRODUCTION AND PROCESSING
- PLASTICS PRODUCTS MANUFACTURING

Data Management Committee

- EIIP PHASE 1 DATA MODEL
- EIIP EDI IMPLEMENTATION GUIDELINE FOR AIR EMISSIONS MODELING
- RESULTS OF THE EIIP EDI PROTOTYPE DATA TRANSFER DEMONSTRATION

Quality Assurance Committee

- INTRODUCTION: THE VALUE OF QA/QC
- PLANNING AND DOCUMENTATION
- GENERAL QA/QC METHODS
- EVALUATING THE UNCERTAINTY OF EMISSION ESTIMATES
- MODEL QA PLAN
- EMISSIONS VERIFICATION/VALIDATION

Color Key

FINAL

EXTERNAL REVIEW

IN PREPARATION

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
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